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plate were ground to produce the bevel, then the claimed cutting edge would include only the substrate and would not include the plate. The Applicant's specification describes the advantages of having the hard plate located at the cutting edge, as claim 1 recites.¹

The Examiner applies Gerber's grinding wheel 43, and asserts that it produces a specular surface. Even if it did (this is traversed below), it still would not produce a specular surface under the hard plate, because it grinds the substrate and not the surface coating (as shown in Fig. 5). Thus, Gerber would not anticipate even if the wheel 43 did produce a polished surface.

(2) Gerber states that the grinding wheel 43 is made of either "coarse" or "fine" grit (col. 4, line 49). When coarse grit is used, the result (see Fig. 6) is "Scores 45, 45 [which] cause the cutting portion to have an uneven thickness [and] yields a more jagged or serrated cutting edge" (col. 4, lines 63-67). Clearly, the coarse grit does not produce a specular surface.

There is little description of what surface the fine grit produces; Gerber only states that when using the fine-grit wheel, the blade should be reciprocated in order to achieve a "smooth" surface (col. 4, lines 49-2), suggesting that the surface will not be "smooth" if the blade is held steady.

¹Gerber also describes the advantage of having the hard plate at the cutting edge (col. 4, lines 32-42). However, Gerber did not have the Applicant's insight or reach the Applicant's claims.

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With respect, the "fine" grit wheel cannot be assumed to produce a specular surface when the only fair comparison is to a coarser wheel that causes jagged serrations. There is no teaching in Gerber that the wheel 43 has anything other than grit in the ordinary range of sizes for sharpening, and the ordinary grinding wheels do not produce a specular surface.

(3) The Examiner is understood to assume that Gerber's grit is at the extreme fine end of the range of grit sizes. Even if the full spectrum of grit sizes were disclosed or suggested by Gerber (which is not the case), there would still be no reason to assume that the reference teaches one end of that range. Gerber does not teach against either its "coarse" or "fine" grinding, and therefore does not suggest moving toward the fine end of a range.

(4) The Examiner asserts that "The surface [of Gerber] is made specular by use of a grinding wheel ... grinding creates a roughness as small as 500 Angstroms" (page 2, line 13). However, based on the Applicant's extrapolated graph of Bennett and Mattson, the Applicant previously argued, "The extrapolated graph shows that, when rms = 500 Angstroms (i.e., 0.05 μm), all of the light is scattered" (Amendment of April 23, 2003, at page 4, line 17). The Examiner has not traversed this statement, which is contrary to the rejection.

[3] Claim 5 was rejected over Gerber in view of Warner '901. The combination of the references is respectfully traversed on the basis of lack of motivation. Gerber already has a hard, non-porous cutting edge.

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[4] Claim 2 was rejected over Gerber in view of Ignatieff '083. This rejection is respectfully traversed. Gerber teaches against locating a harder blade material in between two softer materials at col. 1, lines 11-39. Since this is Ignatieff's main embodiment, the person of ordinary skill would not have combined the Ignatieff reference with Gerber.

[5] Claims 3 and 4 were rejected over Gerber in view of Ignatieff and Wexler '275. This rejection is respectfully traversed. Wexler's chromium layer would not enhance the durability of Gerber's blade because the titanium nitride coating of Gerber is much harder than chromium.

Allowance is requested.

Respectfully submitted,

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I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office (Fax No. (703) 872-9327) on December 19, 2003.

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